REMARKS

The present amendment is submitted in response to the Office Action dated July 5, 2002, which set a three-month period for response, making this amendment due by October 5, 2002, a Saturday, or by Monday, October 7, 2002.

Claims 14-25 are pending in this application.

In the Office Action, the title of the invention was objected to as non-descriptive of the invention. Claim 22 was objected to for an informality. Claims 14-17, 22-23, and 25 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,725,511 to Reber. Claims 18 and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Reber in view of U.S. Patent No. 5,423,714 to Lach. Claim 20 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Reber in view of U.S. Patent No. 5,882,786 to Nassau et al. Claim 21 was rejected under 35 U.S.C. 103(a) as being unpatentable over Reber in view of Lach. Claim 24 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Reber in view of U.S. Patent No. 5,587,233 to Konig.

Turning first to the objection to the title of the invention, the title has been changed to "Multi-layer Gemstone", as the Examiner suggested.

Claim 22 has been amended to correct the phrasing error noted in the Office Action.

Looking now at the substantive rejection of the claims, the Applicants have amended claim 14 to more clearly define the subject matter of the present invention over the cited references. Specifically, claim 14 now provides that the ornamental stone

comprises a body, the body comprising a natural or synthetic stone, said stone being suitable only for technical or industrial purposes, wherein said stone has at least one visible surface adapted to serve as a support for a structured material layer. The Applicants respectfully submit that none of the cited references or reference combinations anticipates or makes obvious the present invention as defined in amended claim 14.

The two Reber references (U.S. Patent No. 4,490,440 and 4,725,511) that are cited in the Office Action both describe a jewelry stone whose body comprises a semi-conductor substrate, in particular, a silicon wafer. On at least one surface 12 of the approximately 0.5 mm (20 mils) thick wafer 10, a light-reflecting layer 14 is deposited. The layer 14 is structured such that the light impinging on the layer is diffracted. The diffraction, which also can be colored, is achieved with grids 26, whose dimensions are established in the Reber '440 reference.

In contrast, the present invention does not relate to a jewelry stone, whose essential element comprises a semi-conductor substrate. The problem addressed by the present invention instead is to make a natural or synthetic stone, in particular, diamonds, which can be used only for technical or industrial purposes, suitable for the jewelry area (see the specification of the present application, page 1, paragraph 4).

This problem is solved by the inventive gemstone, whose body 3 comprises a natural or synthetic stone that is only suitable for technical or industrial purposes, the stone having at least one visible layer 1 as a support for a structured material layer (see specification, page 1, fifth paragraph, and page 2, lines 7 - 12).

This type of gemstone is neither disclosed nor suggested in the cited references. Again, the primary reference to Reber discloses the use of a semi-conductor substrate. The present invention instead uses natural or synthetic stones; also, synthetic diamonds do not comprise a semi-conductor substrate. The use of micro-electronic processing steps on a material, which are typically employed in the tooling area (diamond grinding wheels, for example) or in the jewelry area, with the manufacturing of jewelry stones from "low-grade" stones, would not be obvious to the practitioner from the teachings of either of the Reber patents. In contrast to the present invention, in which a theme or picture is produced on the visible layer of the stone, the Reber references have no pictures on the jewelry piece. Instead, the Reber patents teach only a coloring effect by means of light diffraction. Any teaching relating to the production of pictures on the visible layers of jewelry stones is neither disclosed nor suggested to the practitioner in these references.

Likewise, the Lach patent fails to disclose or suggest the features of amended claim 14. In this reference, a jewelry piece is disclosed, which has at least one poly-crystalline diamond 16 with a cut or finished surface 20, in which recesses or depressions 22 are formed. These recesses are provided with a colored coating, having a color that departs from the black surface 20 of the diamond (see, for example, Lach, column 2, lines 43-53 and claim 3). The visible or upper layer 20 of the Lach jewelry piece has a differently colored surface as a result of the recesses 22 (Lach, column 2, lines 54-63); however, no pictures are formed on the visible or upper layer in Lach.

The patent to Nassau discloses a jewelry stone made from a silicon-carbide of 0.25 to 5 carats (that is, the weight or size of a natural diamond), which is cut out from a synthetic, silicon-carbide crystal and subsequently finished like a gemstone (see Nassau, column 3, line 18 and on). The gemstone is mounted in a common manner on a jewelry piece, for example in the setting of a ring. Since the upper or visible layer of the gemstone can be damaged during the mounting of the jewelry piece, a synthetic diamond layer is deposited as a protective layer on this upper layer (Nassau, column 3, line 59 and on). This diamond layer imparts to the synthetic, silicon-carbide gemstone no decorative qualities. These qualities are the result of grinding of the silicon-carbide stone.

Likewise, the Konig patent fails to disclose or suggest the subject matter of the present invention. In this reference, a protective layer of aluminum oxide, for example for the combustion chambers of automobiles or other technical devices, is described (see Konig, column 2, lines 22-29 and column 4, line 63 through column 5, line 20). This protective layer is made with a CVD (chemical vapor deposition) method.

In conclusion, none of the cited references discloses the inventive gemstone. Furthermore, the practitioner would not obtain any teaching from these references for creating the inventive stone, as defined in amended claim 14, that is, an attractive gemstone that is made from a "low-grade" stone provided with a structured material layer.

For the reasons set forth above, the Applicants respectfully submit that claim 14 is patentable over the cited references and reference combinations. Likewise, claims

15-25, all of which depend either directly or indirectly from claim 14, are also patentable over the art of record. The Applicants therefore request withdrawal of the rejections under 35 U.S.C. 102 and 103 and reconsideration of the application as herein amended.

In light of the foregoing amendment and argument in support of patentability, the Applicants respectfully submit that this application now stands in condition for allowance. Action to this end is courteously solicited. Should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application into condition for allowance.

Respectfully Submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE:

IN THE SPECIFICATION:

On page 1, line 1, please amend the title of the invention as follows:

-- Multi-layer Gemstone[s] --

IN THE CLAIMS:

14. (First Amended) An ornamental stone, comprising:

a body, said body comprising a natural or synthetic stone, said stone being suitable only for technical or industrial purposes, wherein said stone has at least one visible surface adapted to serve as a support for a structured material layer.

22. (First Amended) The ornamental stone according to claim 14, which has [a] as the visible surface [is] one or more surfaces that are level, concave, convex, or a mixture thereof.